

## ABSTRACT OF THE DISCLOSURE

[0077] Typical forward error correction methods employ Trellis Code Modulation. By substituting low density parity check coding in place of the convolution code as part of a combined modulation and encoding procedure, low density parity check coding and modulation can be performed. The low density parity check codes have no error floor, no cycles, an equal bit error rate for the information bits and the parity bits, and timely construction of both a parity check matrix with variable codeword size and a generator matrix is possible.